

## AMENDMENT TO THE CLAIMS

1-26. (Cancelled)

27. (New) A method of identifying an inhibitor of GSK3- $\beta$ , comprising exposing a GSK3- $\beta$  molecule to a putative inhibitor, and measuring the specific activity of said GSK3- $\beta$  molecule, wherein a reduction in specific activity indicates that said putative inhibitor is an inhibitor of GSK3- $\beta$ .

28. (New) The method of claim 27, wherein said specific activity is kinase activity.

29. (New) The method of claims 27, wherein said specific activity is Tau protein phosphorylation.

30. (New) The method of claim 29, wherein Tau phosphorylation is measured by,

- (a) transfecting a cell line with Tau and with said GSK3- $\beta$  polypeptide; and
- (b) assaying the phosphorylation of Tau using a monoclonal antibody.

31. (New) The method of claim 30, wherein said cell line is a COS cell line.

32. (New) The method of claim 29, wherein said Tau phosphorylation is measured in a cell-free system by ELISA.

33. (New) The method of claim 27, wherein said GSK3- $\beta$  has the amino acid sequence of SEQ ID NO:2.

34. (New) A method of identifying an inhibitor of GSK3- $\beta$ , comprising exposing a GSK3- $\beta$  molecule to a putative inhibitor attached to a fluorophore, and measuring the fluorescence polarization, wherein the presence of polarization indicates binding of said inhibitor to the binding site of GSK3- $\beta$ .

35. (New) The method of claim 34, wherein said fluorophore is attached to staurosporine.

36. (New) The method of claim 34, wherein said GSK3- $\beta$  has the amino acid sequence of SEQ ID NO:2.